

DETAILED ACTION

Response to Amendment

1. This office action is in response to amendment /reconsideration filed on 03/31/2008, the amendment/reconsideration has been considered. Claim 1 have been amended, claim 7 have been newly added and therefore, claims 1-7 are pending for examination, the rejection cited as stated below.

Response to Arguments

2. Applicant's arguments have been fully considered but are moot in view of the new ground(s) of rejection.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d) (1) and MPEP § 608.01(o). Correction of the following is required: Claim 1 and 7 recite "predetermined computation" in lines 11, 22 and lines 6, there is no support found in specification for this term.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "predetermined computation" or "activating an operation command target including at least one of an actuator and a load" in claim 1 and newly added claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitta et al. (Patent Number: US 6,321,150 B1) hereinafter “Nitta” in view of Nada et al. (Pub. No.: US 2003/0158639 A1), hereinafter “Nada”.

7. As to claims 1 and 7, Nitta discloses, a control system comprising:
a signal processing unit (Nitta, Fig.2, element-20 Hev_ECU, Col.4, line 30);
a computation processing unit (Nitta, Fig.2, element-20 Hev_ECU, Col.4, line 31); and
a monitor processing unit (Nitta, Fig.2, element-20 Hev_ECU, Col.4, lines 36-39),
wherein the signal processing unit, the computation processing unit, and the monitor processing unit mutually communicate data (Nitta, Fig.2, element-20 Hev_ECU, Col.4, lines 30-35), wherein the signal processing unit sends to the computation processing unit and the monitor processing unit, signal data that indicates at least one of a state of a switch and a detection result of a sensor (Nitta, Fig.2, element-20 Hev_ECU, Col.4, lines 30-35, where signal from sensors and switches are received and collects data from ECU, computation is done and Col.4, lines 40-44, where sensor abnormality is indicated via sensor detection),
wherein the computation processing unit executes a predetermined computation based on the signal data sent by the signal processing unit ((Nitta, Fig.2, element-20 Hev_ECU, Col.4, lines 30-31, where sensor sends the data to HEV_ECU which executes the computation based on received data from sensor), and then sends operation command data to an output processing unit for activating an operation command target including at least one of an actuator and a load (Nitta, Fig.2, Col.4,

lines 40-44, which in case of abnormality T/M ECU 24 carries out an abnormality control and causes the indicator 27 to indicate abnormality), and
operation condition data, which indicates that condition where an operation command trigger for activating the operation command target has been effected, to the monitor processing unit, the operation condition data corresponding to the signal data based on which the computation processing unit has executed the predetermined computation (Nitta, Col.2, lines 30-44, see the explanation for above limitations),

wherein the monitor processing unit receives the signal data sent by the signal processing unit (Nitta, Col.4, lines 30-31, where ECU receives the signal from sensors), and

wherein the monitor processing unit determines whether abnormality is present (Nitta, Col.4, lines 36-40, where indicating abnormality is disclosed),

Nitta however, is silent on disclosing explicitly, storing the received signal from signal processing unit, by comparing the stored signal data with the operation condition data received from the computation processing unit.

Nada however discloses, storing the received signal from signal processing unit, by comparing the stored signal data with the operation condition data received from the computation processing unit (Nada, Fig.11, [0006], where systems of sensors for detecting predetermined operation characteristic quantities regarding the vehicle is disclosed and further [0088] determination of abnormality is discussed).

Therefore it would have been obvious to one of the ordinary skilled in the art at the time the invention was made to combine the teachings of Nitta with the teachings of

Nada in order to provide a system specific kind of abnormality is detected in the vehicle, a control mode corresponding to the kind of the detected abnormality is executed among a plurality of pre-set "during-abnormality" control modes....

8. As to claim 2, Nitta and Nada disclose the invention substantially as in parent claim 1, including, wherein the operation command trigger is one of a plurality of operation command triggers (Nitta, Col.4, lines 55-60, where control command is one of the plurality of operation command triggers)

wherein the computation processing unit sends, to the monitor processing unit along with the operation condition data, operation trigger data indicating the operation command trigger (Nitta, Col.4, lines 30-44, where sensor sends the signal and HEV_ECU computes the data and warning is carried out as abnormality), and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the operation command trigger received from the computation processing unit (Nitta, Col.4, lines 36-39, where abnormality is detected after computing the received data from sensors and ECU).

9. As to claim 3, Nitta and Nada disclose the invention substantially as in parent claim 1, including, wherein the signal processing unit sends, along with the signal data, timing information that specifies sending timing at which the signal data is sent (Nitta, abstract, where sending time counter is displayed and it is obvious that in the field of monitoring diagnosis timing is critical for diagnostic purpose),

wherein the monitor processing unit receives the timing information sent by the signal processing unit along with the signal data and stores the received timing information with correlating the timing information with the signal data (Nitta, abstract, see the explanation above for first limitation), and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the stored timing information (Nada, Fig.11, [0006], where systems of sensors for detecting predetermined operation characteristic quantities regarding the vehicle is disclosed and further [0088] determination of abnormality is discussed).

10. As to claim 4, Nitta and Nada disclose the invention substantially as in parent claim 1 above, including, wherein the timing information includes at least one of a counter value, a random number that is not repeatedly used (Nitta, Abstract, where counter values is a random value and is sent out with the signal), and a time when sending is executed (Nitta, Col.1, lines 21-29, where watchdog timer is used and therefore it is obvious that timing of actions performed must be recorded and considered).

11. As to claim 5, Nitta and Nada disclose the invention substantially as in parent claim 1, including, wherein the computation processing unit generates a data that includes the operation command data for the output processing unit (Nitta, Col.4, lines 30-35, where computation is done and torque value is distributed to the device system which can be interpret as output) and the operation condition data for the monitor

processing unit and sends the generated data frame to the output processing unit and the monitor processing unit (Nada, [0006], where predetermined operation characteristic quantities regarding the vehicle are provided which is compared to the current data to determine any abnormality).

12. As to claim 6, Nitta and Nada disclose the invention substantially as in parent claim 1, including, wherein, after the monitor processing unit determines whether abnormality is present (Nada, [0006], where abnormality is detected), the monitor processing unit stores a result of determination along with information that is used for the determination (Nada, [0077], where abnormality detection information is registered in an abnormality history circuit 280).

13. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references, as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention, as well as the context.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571 272 3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. H./
Examiner, Art Unit 2152

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152